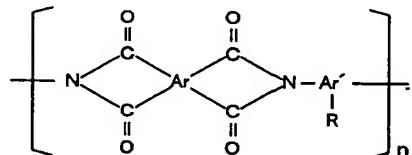


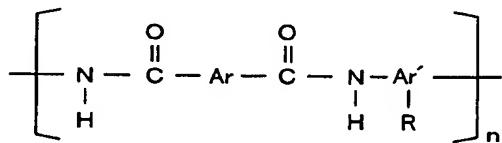
What is claimed is:

1. An anti-bacterial polymer consisting of the vapor deposition-polymerization reaction product of a diaminobenzoic acid monomer or halogen atom-containing diamine monomer and a monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing diamine monomer .
2. The anti-bacterial polymer as set forth in claim 1, wherein the diaminobenzoic acid monomer is a member selected from 2,3-diaminobenzoic acid, 2,4-diaminobenzoic acid, 2,5-diaminobenzoic acid, 3,4-diaminobenzoic acid and 3,5-diaminobenzoic acid.
- 10 3. The anti-bacterial polymer as set forth in claim 1, wherein the halogen atom is selected from the group consisting of fluorine, chlorine, bromine, and iodine.
4. The anti-bacterial polymer as set forth in claim 1, wherein the halogen atom-containing diamine monomer is a monomer selected from 4, 4'-methylenebis(2-chlorobenzene amine), 3, 3'-dichloro-4, 4'-diaminodiphenyl ether, and 5-chloro-m-phenylenediamine.
- 15 5. The anti-bacterial polymer as set forth in any one of claims 1 to 4, wherein the monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing diamine monomer is a member selected from tetracarboxylic acid dianhydrides, diisocyanates, acid chlorides and aldehydes.
- 20 6. The anti-bacterial polymer as set forth in any one of claims 1 to 5, wherein the anti-bacterial polymer is a polyimide, a polyamide, a polyurea or a poly(azomethine), the polyimide is a copolymer comprising at least one structural unit represented by the following general formula (I):

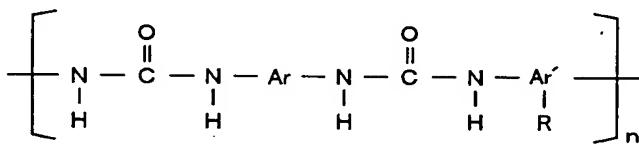


(in the formula (I), Ar and Ar' each represents an aromatic or aliphatic group, and

R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); the polyamide is a copolymer comprising at least one structural unit represented by the following general formula (II):

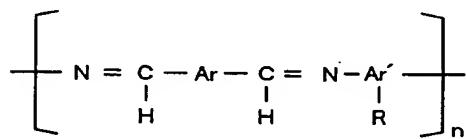


(in the formula (II), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); the polyurea is a copolymer comprising at least one structural unit represented by the following general formula (III):



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(in the formula (III), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); and the poly(azomethine) is a copolymer comprising at least one structural unit represented by the following general formula (IV):



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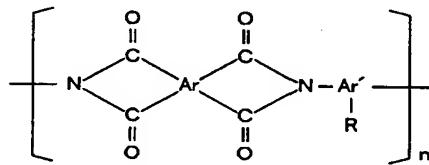
(in the formula (IV), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine).

7. A method for the preparation of an anti-bacterial polymer comprising the step of subjecting a gas obtained by evaporating a diaminobenzoic acid monomer or

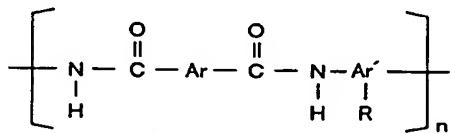
halogen atom-containing diamine monomer and a gas obtained by evaporating a monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing monomer to vapor deposition-polymerization, in a vacuum, to thus form an anti-bacterial polymer.

8. The method for preparing an anti-bacterial polymer as set forth in claim 5, wherein the diaminobenzoic acid monomer is a member selected from 2,3-diaminobenzoic acid, 2,4-diaminobenzoic acid, 2,5-diamino-benzoic acid, 3,4-diaminobenzoic acid and 3,5-diaminobenzoic acid; the halogen atom-containing diamine monomer is a member selected from 4, 4'-methylenebis(2-chlorobenzene amine), 3, 3'-dichloro-4, 4'-diaminodiphenyl ether, and 5-chloro-m-phenylenediamine and the monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing diamine monomer is a member selected from tetracarboxylic acid dianhydrides, diisocyanates, acid chlorides and aldehydes; and the anti-bacterial polymer is a polyimide, a polyamide, a polyurea or a poly(azomethine).

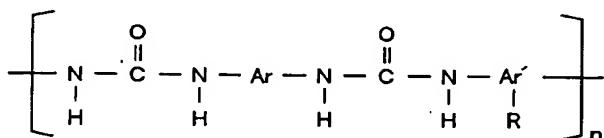
9. The method for preparing an anti-bacterial polymer as set forth in claim 5 or 6, wherein the polyimide is a copolymer comprising at least one structural unit represented by the following general formula (I):



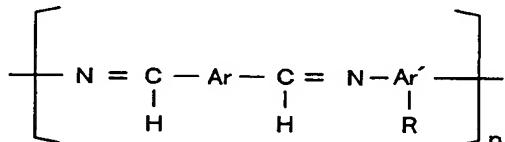
(in the formula (I), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); the polyamide is a copolymer comprising at least one structural unit represented by the following general formula (II):



(in the formula (II), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); the polyurea is a copolymer comprising at least one structural unit represented by the following general formula (III):



10 (in the formula (III), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine); and the poly(azomethine) is a copolymer comprising at least one structural unit represented by the following general formula (IV):



20 (in the formula (IV), Ar and Ar' each represents an aromatic or aliphatic group, and R is COOH or a halogen atom selected from fluorine, chlorine, bromine, and iodine).

10. An anti-bacterial polymer film consisting of an anti-bacterial polymer as set forth in any one of claims 1 to 6.

25 11. A method for preparing an anti-bacterial polymer film comprising the step of subjecting a gas obtained by evaporating a diaminobenzoic acid monomer or halogen atom-containing diamine monomer and a gas obtained by evaporating a monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing diamine monomer to vapor deposition-polymerization on a substrate, in a vacuum, to thus form an anti-bacterial polymer.

12. The method for preparing an anti-bacterial polymer film as set forth in claim

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11, wherein the diaminobenzoic acid monomer is a member selected from 2,3-diaminobenzoic acid, 2,4-diamino- benzoic acid, 2,5-diaminobenzoic acid, 3,4-diaminobenzoic acid and 3,5-diaminobenzoic acid; the halogen atom-containing diamine monomer is a member selected from 4, 4'-methylenebis(2-chlorobenzene amine), 3, 3'-dichloro-4, 4'-diaminodiphenyl ether, and 5-chloro-m-phenylene-diamine; the monomer reactive with the diaminobenzoic acid monomer or halogen atom-containing diamine monomer is a member selected from tetracarboxylic acid dianhydrides, diisocyanates, acid chlorides and aldehydes; and the anti-bacterial polymer is a polyimide, a polyamide, a polyurea or a poly(azomethine).

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13. An article characterized in that it comprises, on the surface thereof, an anti-bacterial polymer film comprising an anti-bacterial polymer as set forth in any one of claims 1 to 6.